Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM J. WALSH

Appeal No. 1998-2672
Application No. 07/955,768

ON BRIEF

Before BARRETT, RUGGIERO, and LEVY, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 1-3, 8-12, and 17-26. Claims 14-16 have been allowed by the Examiner while claims 4-7 and 13 have been canceled.

The disclosed invention relates to a method and apparatus for synchronizing base-stations in a global positioning system (GPS) based communication system. In the event of GPS

failure, an alternate signal, such as a Long Range Navigation (LORAN) signal, is used to provide redundant synchronization. In order to achieve the degree of accuracy provided by the GPS signal when using the alternate signal, the alternate signal is characterized by utilizing the GPS signal during times when the GPS signal is present.

Claim 1 is illustrative of the invention and reads as follows:

> 1. An apparatus for providing synchronization for a base-station in a communication system, the apparatus comprising:
>
> means for receiving a first clocking signal from a source external to the base station, the first clocking signal having a first frequency with a first stability and utilized for synchronization when available;
>
> means for providing a second clocking signal having a second frequency with a second stability, the second stability being less than the first stability;
>
> means for characterizing the second stability of the second clocking signal utilizing said first clocking signal to produce characterization information; and
>
> means, coupled to said means for characterizing, for employing said second clocking signal and said characterization information for synchronization when said first clocking signal is absent.

The Examiner relies on the following prior art:

Ernst et al. (Ernst)	5,052,030	Sep. 24, 1991
Averbuch	5,245,634	Sep. 14, 1993 (filed Mar. 23, 1992)

Claims 1-3, 8-12, and 17-26 stand finally rejected under 35 U.S.C. § 103 as being unpatentable over Averbuch in view of Ernst.

Rather than reiterate the arguments of Appellant and the Examiner, reference is made to the Brief (paper no. 27) and Answer (paper no. 28) for the respective details.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the Examiner, and the evidence of obviousness relied upon by the Examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellant's arguments set forth in the Brief along with the Examiner's rationale in support of the rejection and arguments in rebuttal set forth in the Examiner's Answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 1-3, 8-12, and 17-26. Accordingly, we reverse.

In rejecting claims under 35 U.S.C. § 103, it is

incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories,

Inc.,

776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

With respect to independent claims 1, 9, 17, 20, 21, and 24, the Examiner, as the basis for the obviousness rejection, proposes to modify the synchronization system disclosure of Averbuch. In the Examiner's view, Averbuch discloses a backup clocking system for establishing synchronization as claimed except for the feature of improving the accuracy of a second clocking signal used for synchronization when a first clocking signal is absent. To address this deficiency, the Examiner turns to Ernst and concludes that:

> Therefore, it would have been obvious

> to one of ordinary skill in the art at the time the invention was made to modify the Averbuch system by providing the teaching of the Ernst backup clock system in order to maintain a faultless synchronization of a backup clock to a reference clock as taught by Ernst (Col. 2, lines 3-5). [Answer, pages 3 and 4.]

After reviewing the Averbuch and Ernst references, in light of the arguments of record, we are in agreement with Appellant that proper motivation has not been set forth for the Examiner's proposed combination so as to establish a prima facie case of obviousness. In making this determination, our interpretation of the disclosure of Ernst coincides with that of Appellant. Rather than suggesting the improvement of the stability of a backup clocking source by utilizing a primary clocking source signal as in the appealed claims, the problem addressed by Ernst is the elimination of glitches such as phase shifts on switching from active to backup central clock generators. Ernst attacks this problem by providing a technique for synchronizing the generated clock signal within each of the active and backup central clock generator circuits with an external reference signal during certain window periods tied to the generated clock signal (Ernst, Figs. 2 and

3). Given this disclosure of Ernst, it is unclear how and in what manner the Examiner would combine Ernst with Averbuch to arrive at Appellant's claimed invention.

We further agree with Appellant's argument (Brief, page 8) that, even assuming arguendo that Averbuch and Ernst could be combined, the resulting structure would fall short of meeting the requirements of the appealed claims. In our view, as also asserted by Appellant, the combination of Averbuch and Ernst at best would result in a system in which the primary and backup clocking systems would each be synchronized in operation permitting a glitchless transfer between the primary and backup clocking systems. Such a system, however, would be lacking in any provision for improving the stability of the backup clocking system by generating characterization information related to the backup clocking signal by utilizing the primary clocking signal.[1]

[1]Although not considered by the Examiner according to the record, we have undertaken a consideration of an alternative interpretation of Averbuch in which the signal from central site 100 is interpreted as Appellant's claimed higher stability first clocking signal from an external source while the local clock signal in each of Averbuch's base stations 102, 103 is interpreted as the claimed lower stability second clocking signal. This interpretation of Averbuch, however, also fails to meet the claimed requirements since the lower stability clocking signal is not used for synchronization when the higher stability clocking signal is absent or unavailable.

Accordingly, since the Examiner has not established a prima facie case of obviousness, the 35 U.S.C. § 103 rejection of independent claims 1, 9, 17, 20, 21, and 24, and claims 2, 3, 8, 10-12, 18, 19, 22, 23, 25, and 26 dependent thereon, cannot be sustained. Therefore, the decision of the Examiner rejecting claims 1-3, 8-12, and 17-26 is reversed.

REVERSED

LEE E. BARRETT Administrative Patent Judge	)	
JOSEPH F. RUGGIERO Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
STUART S. LEVY Administrative Patent Judge	)	

JFR:hh

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